

EXAMINING THE PHILOSOPHY OF BUILDING CODES FROM A FIRE DEPARTMENT PERSPECTIVE

Is it in the best interest of Americas to mandate that buildings be constructed like bunkers? If it is, then the cost of construction will have to rise dramatically. Also, amenities that we all desire will be greatly reduced or go away altogether. Somehow, we have to achieve balance between construction cost, the desired level of safety, and usability of our buildings. Therefore, it's important to review the philosophy of our codes.

The four goals for NFPA 5000, "Building Construction and Safety Code" in section 4.1.1 are to provide safety, health, building usability, and public welfare.

The safety goal is broken down to include safety from fire, safety from structural failure, safety during building use, and safety from hazardous materials. The safety-from-fire goal indicates that we're to provide an environment inside a building that's "reasonably safe" from fire and similar emergencies and that we're to ensure the reasonable safety for firefighters and emergency responders.

The code recognizes it's important to reduce the probability of injury or death, but it may not be practical or possible to eliminate the probability.

The safety-from-fire objective makes four interesting statements that begin to quantify the level of safety being sought. Section 3.1.3.1.2.1 indicates that buildings must be designed and constructed to protect occupants "not intimate with the initial fire development" for a time sufficient enough to allow the occupants to evacuate, relocate or defend in place. The next objective states that buildings must be designed and constructed to provide reasonable safety for firefighters and emergency responders during search-and-rescue operations.

Section 4.1.3.1.2.3 states that buildings must be designed and constructed to reasonably protect adjacent persons and buildings from injury, death or substantial damage from fire.

The last objective for safety from fire tells us that buildings must be designed and constructed to provide reasonable access to the building for emergency responders.

The safety-from-structural-failure goal specifies that the building should be designed and constructed with a high level of confidence that there will be a low probability of structural failure resulting in a local or global collapse that could threaten life under any load or combination of loads that could reasonably be anticipated. This working is extremely important because it sets minimum requirements for loading that can be expected to occur or likely occur.